

Carman Water System Annual Report - 2024



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A copy of this report is available to the public via the Town Of Carman website:
www.carmanmanitoba.ca or, a free paper copy may be obtained at our Town Office at the address above.

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1. Introduction

The Town of Carman Manitoba strives to provide high quality drinking water in sufficient quantities to meet public needs. It is our goal to do so in a safe and cost-effective manner, while remaining in compliance with the regulatory requirements governing the provision of safe drinking water. It is our belief that the public has a right to access the information related to the drinking water they consume. To that end, the following report has been prepared for the Community of Carman public water system.

2. Sources

On June 23rd, 2021, The Town of Carman began supplying water from our newly constructed storage reservoir and pump house and began decommissioning the water treatment plant. The Town of Carman is now supplied drinking water solely from the Water Treatment Plant at Stephenfield with the option of also bringing water from the Morris WTP. We added another pump in fall 2023 that will allow us to feed back into the RM of Dufferin for emergency situations. For more info on the Stephenfield Plant, please visit their website, <https://pvwc.ca/>

Why and how do we disinfect our water?

Our pump house contains a means to provide additional chlorination with 2 pumps available in case of emergency, or if additional disinfectants are required. However, upgrades to the SWTP membrane plant have provided much more stable chlorine residuals in the Carman distribution system and re-chlorination at the Carman pump house is currently not required. Chlorine residuals are continually monitored with online monitors and manual daily tests.

3. Water storage and distribution

The storage reservoir and pump house have a capacity of 3600 cubic meters or 800,000 IMP. gallons. There is roughly 3.5 - 4 days of storage in summer or peak demand periods, and 4 - 5 days in winter or lower demand periods.

What is the “Distribution System”?

The water distribution system is the network of underground pipes used to carry the treated water from the water treatment facility to the homes and businesses in Carman. We have 25km of cast iron, AC and PVC piping. The piping is interconnected to ensure that fresh safe water is continuously supplied. Regular maintenance is performed in the distribution system including the seasonal fire hydrant flushing program in September/October. Seasonal flushing of the distribution allows for the removal of sediment in water mains that may have accumulated over time.

4. Water testing the why, where, and how

Is our water tested? What for? When?

Bacteriological testing: We test the treated water (leaving the Storage Reservoir) and the water in the distribution system (within the Town of Carman) every two weeks for the presence of Total Coliforms (non-harmful bacteria). If these bacteria are present in the water, it is an indication that disease-causing bacteria may also be present. Tests for the presence of E-Coli (most common harmful bacteria) are also conducted at the same time.

Disinfectant testing: We test the level of chlorine in the treated water every day to ensure that the water leaving the Reservoir has enough chlorine to ensure proper disinfections

The pump house is equipped with 2 online CL2 monitors (1 on incoming line, 1 on discharge), so it is continuously monitored. Daily manual tests are done for free CL2 and once a week for Total CL2.

Trihalomethanes (THMs): Trihalomethanes are formed when chlorine reacts with naturally occurring organic matter in the water. Studies have shown a link between high levels of THMs and cancer. For that reason, the province has set a health-based standard for THMs of 100 micrograms per liter of water or 0.100 ppm. The THM standard is based on an average of four samples per year. We test THM levels in one location in the distribution system on a seasonal basis. Due to the type of water that Carman uses for its drinking water (Boyne River) the levels for THMs is above the provincial standard of 0.100 ppm.

Haloacetic Acids (HAAs): Haloacetic acids (HAAs) are a common undesirable by-product of using Chlorine to disinfect drinking water. Exposure to such by-products in drinking water, at high levels over many years, has been associated with a number of health outcomes by epidemiological studies; due to this the provincial and federal governments have set a limit of 80 micrograms per liter of water or 0.08 mg/L. HAAs can be formed by chlorination, ozonation or chlorination of water with formation promoted by slightly acidic water, high organic matter content and elevated temperature. Chlorine from the water disinfection process can react with organic matter and small amounts of bromide present in water to produce various HAAs.

THMs and HAAs are submitted every other year in even numbered years. THM and HAA sampling were done in 2022.

Lead Sampling:

The lead sampling program that was to start in 2020/21 had been postponed due to Covid-19 pandemic. We started our sampling program in 2023 with us taking from 20 residential units around town focusing on houses built prior to 1980. Results are posted at the end of this report. Since all of our samples over the first couple of years have met lead standards our sampling requirement has been reduced from 20 every year to 10 samples every other year. If you believe you have lead pipes in your house, you can call us and we will add you to the sampling list for 2025.

Other Important Information:

The Office of Drinking Water participates in the Federal-Provincial-Territorial Committee on Drinking Water that approves the Guidelines for Canadian Drinking Water Quality. Drinking water quality standards applied in Manitoba regulations are consistent with current Health Canada guidelines, and the Office of Drinking Water monitors the potential impact of proposed changes to Manitoba water systems. Health Canada recently published new technical guidelines on cyanobacteria (algae), manganese, and lead.

Canadian Drinking Water guidelines can be found at <https://www.canada.ca/en/health-canada/services/environmental-workplace-health/water-quality/drinking-water/canadian-drinking-water-guidelines.html>

Owners and operators are encouraged to review this information and to determine what impact they may have on the water supply.

What were the results of water testing in 2024?

The following table summarizes treated water testing results for 2024:

Testing Parameter	Standard	Carman WTP Performance	Standard Met
Bacteriological	0/100 mL Coliforms 0/100 mL E. Coli	100 %	Yes
Chlorine Leaving Reservoir	0.5 mg/L	100 %	Yes
Chlorine in distribution system	0.1 mg/L	100 %	Yes
Total Trihalomethanes (THMs) - Samples collected every other year, beginning in 2020	<0.08 mg/L	2024 average – 0.03525 mg/L	2024 – Yes
Total Haloacetic Acids (HAAs) – Samples collected every other year, beginning in 2020	80	2024 average - 30 ug/L	2024 – Yes

2024 Bacteriological Testing Results				
Sample ID	ALS ID	Date Sampled	MPN/100M L	MPN/100M L
TOC - Distribution @ Carman Golf Club	WP2400493-001	1/8/2024	0	0
TOC - Distribution @ Res Outgoing	WP2400493-002	1/8/2024	0	0
TOC - Distribution @ High School	WP2400493-003	1/8/2024	0	0
TOC - Distribution @ Ed's Tire	WP2401552-001	1/22/2024	0	0
TOC - Distribution @ Res Outgoing	WP2401552-002	1/22/2024	0	0
TOC - Distribution @ Elementary School	WP2401552-003	1/22/2024	0	0
TOC - Distribution @ Carman Hospital	WP2402716-001	2/5/2024	0	0
TOC - Distribution @ Res Outgoing	WP2402716-002	2/5/2024	0	0
TOC - Distribution @ Public Works	WP2402716-003	2/5/2024	0	0
TOC - Distribution @ Carman Arena	WP2403999-001	2/20/2024	0	0
TOC - Distribution @ Res Outgoing	WP2403999-002	2/20/2024	0	0
TOC - Distribution @ Memorial Hall	WP2403999-003	2/20/2024	0	0
TOC - Distribution @ Carman Golf Course	WP2405309-001	3/5/2024	0	0
TOC - Distribution @ Res Outgoing	WP2405309-002	3/5/2024	0	0
TOC - Distribution @ Carman Motor Inn	WP2405309-003	3/5/2024	0	0
TOC - Distribution @ LCL Construction	WP2406361-001	3/18/2024	0	0
TOC - Distribution @ Res Outgoing	WP2406361-002	3/18/2024	0	0
TOC - Distribution @ Elementary School	WP2406361-003	3/18/2024	0	0
TOC - Distribution @ High School	WP2407490-001	4/2/2024	0	0
TOC - Distribution @ Res Outgoing	WP2407490-002	4/2/2024	0	0
TOC - Distribution @ Public Works	WP2407490-003	4/2/2024	0	0

TOC - Distribution @ Darcy's House	WP2408572-001	4/15/2024	0	0
TOC - Distribution @ Res Outgoing	WP2408572-002	4/15/2024	0	0
TOC - Distribution @ Memorial Hall	WP2408572-003	4/15/2024	0	0
TOC - Distribution @ Carman Golf Course	WP2409807-001	4/29/2024	0	0
TOC - Distribution @ Res Outgoing	WP2409807-002	4/29/2024	0	0
TOC - Distribution @ Carman Hospital	WP2409807-003	4/29/2024	0	0
TOC - Distribution @ Carman Golf Course	Duracan	13/5/2024	0	0
TOC - Distribution @ Res Outgoing	Duracan	13/5/2024	0	0
TOC - Distribution @ Carman Motor Inn	Duracan	13/5/2024	0	0
TOC - Distribution @ Carman High School	Duracan	27/5/2024	0	0
TOC - Distribution @ Res Outgoing	Duracan	27/5/2024	0	0
TOC - Distribution @ Elementary School	Duracan	27/5/2024	0	0
TOC - Distribution @ Carman Campground	Duracan	10/6/2024	0	0
TOC - Distribution @ Res Outgoing	Duracan	10/6/2024	0	0
TOC - Distribution @ Darcy's House	Duracan	10/6/2024	0	0
TOC - Distribution @ Carman Hospital	Duracan	24/6/2024	0	0
TOC - Distribution @ Res Outgoing	Duracan	24/6/2024	0	0
TOC - Distribution @ Public Works	Duracan	24/6/2024	0	0
TOC - Distribution @ Carman Arena	Duracan	8/7/2024	0	0
TOC - Distribution @ Res Outgoing	Duracan	8/7/2024	0	0
TOC - Distribution @ Ed's Tire	Duracan	8/7/2024	0	0
TOC - Distribution @ Memorial Hall	Duracan	23/7/2024	0	0
TOC - Distribution @ Res Outgoing	Duracan	23/7/2024	0	0
TOC - Distribution @ Darcy's House	Duracan	23/7/2024	0	0
TOC - Distribution @ Carman Golf Course	Duracan	6/8/2024	0	0
TOC - Distribution @ Res Outgoing	Duracan	6/8/2024	0	0
TOC - Distribution @ Carman Motor Inn	Duracan	6/8/2024	0	0
TOC - Distribution @ Carman Campground	Duracan	19/8/2024	0	0
TOC - Distribution @ Res Outgoing	Duracan	19/8/2024	0	0
TOC - Distribution @ Public Works	Duracan	19/8/2024	0	0
TOC - Distribution @ Elementary School	Duracan	3/9/2024	0	0
TOC - Distribution @ Res Outgoing	Duracan	3/9/2024	0	0
TOC - Distribution @ High School	Duracan	3/9/2024	0	0
TOC - Distribution @ Carman Arena	Duracan	16/9/2024	0	0
TOC - Distribution @ Res Outgoing	Duracan	16/9/2024	0	0
TOC - Distribution @ Darcy's House	Duracan	16/9/2024	0	0
TOC - Distribution @ Ed's Tire	Duracan	1/10/2024	0	0
TOC - Distribution @ Res Outgoing	Duracan	1/10/2024	0	0
TOC - Distribution @ Memorial Hall	Duracan	1/10/2024	0	0
TOC - Distribution @ Carman Arena	Duracan	15/10/2024	0	0
TOC - Distribution @ Res Outgoing	Duracan	15/10/2024	0	0
TOC - Distribution @ Public Works	Duracan	15/10/2024	0	0

TOC - Distribution @ Carman Hospital	Duracan	28/10/2024	0	0
TOC - Distribution @ Res Outgoing	Duracan	28/10/2024	0	0
TOC - Distribution @ Darcy's House	Duracan	28/10/2024	0	0
TOC - Distribution @ Carman Arena	Duracan	12/11/2024	0	0
TOC - Distribution @ Res Outgoing	Duracan	12/11/2024	0	0
TOC - Distribution @ Elementary School	Duracan	12/11/2024	0	0
TOC - Distribution @ Carman Golf Course	Duracan	26/11/2024	0	0
TOC - Distribution @ Res Outgoing	Duracan	26/11/2024	0	0
TOC - Distribution @ Carman Motor Inn	Duracan	26/11/2024	0	0
TOC - Distribution @ Ed's Tire	Duracan	10/12/2024	0	0
TOC - Distribution @ Res Outgoing	Duracan	10/12/2024	0	0
TOC - Distribution @ Memorial Hall	Duracan	10/12/2024	0	0
TOC - Distribution @ Darcy's House	Duracan	23/12/2024	0	0
TOC - Distribution @ Res Outgoing	Duracan	23/12/2024	0	0
TOC - Distribution @ Public Works	Duracan	23/12/2024	0	0

Town Of Carman Residential Lead Results 2023

	Sample			
	Sample Type Name	Sampling Date	ALS ID	Lead, total mg/L
WP2313582-001 (1)	Water	28-06-2023	WP2313582-001	0.00389
WP2313582-002 (1)	Water	28-06-2023	WP2313582-002	0.000835
WP2313582-003 (1)	Water	28-06-2023	WP2313582-003	0.00169
WP2313582-004 (1)	Water	28-06-2023	WP2313582-004	0.00125
WP2314784-001 (1)	Water	10-07-2023	WP2314784-001	0.0866
WP2314784-002 (1)	Water	10-07-2023	WP2314784-002	0.000163
WP2314784-003 (1)	Water	10-07-2023	WP2314784-003	0.00126
WP2314784-004 (1)	Water	10-07-2023	WP2314784-004	0.00441
WP2316708-001 (1)	Water	25-07-2023	WP2316708-001	0.00146
WP2316708-002 (1)	Water	25-07-2023	WP2316708-002	0.000628
WP2316708-003 (1)	Water	25-07-2023	WP2316708-003	0.00382
WP2316708-004 (1)	Water	25-07-2023	WP2316708-004	0.00227
WP2320127-001 (1)	Water	21-08-2023	WP2320127-001	0.000363
WP2320127-002 (1)	Water	21-08-2023	WP2320127-002	0.000406
WP2320127-003 (1)	Water	21-08-2023	WP2320127-003	0.00116
WP2320127-004 (1)	Water	21-08-2023	WP2320127-004	0.00109
WP2323672-001 (1)	Water	19-09-2023	WP2323672-001	0.00196
WP2323672-002 (1)	Water	19-09-2023	WP2323672-002	0.000180
WP2323672-003 (1)	Water	19-09-2023	WP2323672-003	0.00158
WP2323672-004 (1)	Water	19-09-2023	WP2323672-004	0.000406
WP2330989-001 (1)	Water	28-11-2023	WP2330989-001	0.00114

Town of Carman Residential Lead Results 2024

	Sample			
	Sample Type Name	Sampling Date	ALS ID	Lead, total mg/L
WP2417029	Water	09-07-2024	WP2417029-1	0.000294
WP2417029	Water	09-07-2024	WP2417029-2	0.00234
WP2417029	Water	09-07-2024	WP2417029-3	0.000753
WP2417029	Water	09-07-2024	WP2417029-4	0.00112
WP2418655	Water	07-31-2024	WP2418655-1	0.00116
WP2418655	Water	07-31-2024	WP2418655-2	0.000271
WP2418655	Water	07-31-2024	WP2418655-3	0.00112
WP2418655	Water	07-31-2024	WP2418655-4	0.000153
WP2420331	Water	20-08-2024	WP2420331-1	0.00161
WP2420331	Water	20-08-2024	WP2420331-2	0.000495
WP2421447	Water	05-09-2024	WP2421447-1	0.00198
WP2421447	Water	05-09-2024	WP2421447-2	0.00228
WP2421447	Water	05-09-2024	WP2421447-3	0.000481
WP2421911	Water	12-09-2024	WP2421911-1	0.000656
WP2421911	Water	12-09-2024	WP2421911-2	0.000438
WP2421911	Water	12-09-2024	WP2421911-3	0.000276
WP2421911	Water	12-09-2024	WP2421911-4	0.000405
WP2423385	Water	04-10-2024	WP2423385-1	0.00109
WP2423385	Water	04-10-2024	WP2423385-2	0.000716
WP2423385	Water	04-10-2024	WP2423385-3	0.000270

Town of Carman Total Metals Results

Total Metals was not done in 2024, will be done again in 2025.

What do we have in place to alert water plant staff to water emergencies?

The Reservoir and Pumpouse is alarmed with all of these parameters, including, but not limited to: low/high pressure alarms, low/high flow alarms, low chlorine levels, and loss of normal power.

Were there any major expenses incurred in 2024?

There was no major expenses or projects in 2024.

Did any non-compliance incidents occur in 2024?

There were no non-compliance incidents noted by the Office of Drinking Water in 2024.